KLASSEN, V.I.; LITOVKO, V.I.; MYASNIKOV, N.F.

Improving the physicomechanical properties of ferrosilicon suspensions with the help of reagents. TSvet. met. 36 no.10: 17-20 O '63. (MIRA 16:12)

KLASSEN, V. I.; LITOVKO, V. I.; MYASNIKOV, N. F.

"Improvement of physical and mechanical properties of ferrosilicon suspensions with help of reagents."

report submitted for 7th Intl Mineral Processing Cong, New York, 20-25 Sep 64.

1. MYASNIKOV, N. G.

2. USSR (600)

4. Irrigation

7. Saturation irrigation. Agrobiologiia No. 5, 1952.

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

MYASNIKOV, N. G.

Irrigation Farming

Mechanized preparation of the fields for irrigation and the tecnnique of sowing cereals in a new irrigation system.
Sov. agron 10, No. 7, 1952.

9. Monthly List of Russian Accessions, Library of Congress, September 1952. UNCLASSIFIED.

MYASNIKOV, N.G.

Plows

Attachment for three-or four-gang tractor plows for cutting irrigation furrows. Sov. agron. 10 no. 10, 1952.

9. Monthly List of Russian Accessions, Library of Congress, December 1952 ~~1953~~. Unclassified.

USSR/Cultivated Plants - Grains.

Abs Jour : Ref Zhur - Biol., No 10, 1958, 44017

Author : Myasnikov, M.G.
Inst : -
Title : Experiments with the Pocket Sowing of Grains with Irrigation.

Orig Pub : Zemledeliye, 1957, No 8, 72-75.

Abstract : The experiments were carried by the Khakass Experimental Station of Irrigational Agriculture. During the period of vegetation the plants received 3-4 waterings. On an average, in several years the grain yield of spring wheat increased by 14-4%. the yield of oats by 13.9%, the yield of millet by 16.3% in comparison with the usual sowing method. The effect of the plants of spring wheat on each other was studied when sown by the bunch method. In seeding 2 grains into the pocket, wheat was choked and [illegible]. Increase in the number of grains (to 20)

Card 1/2

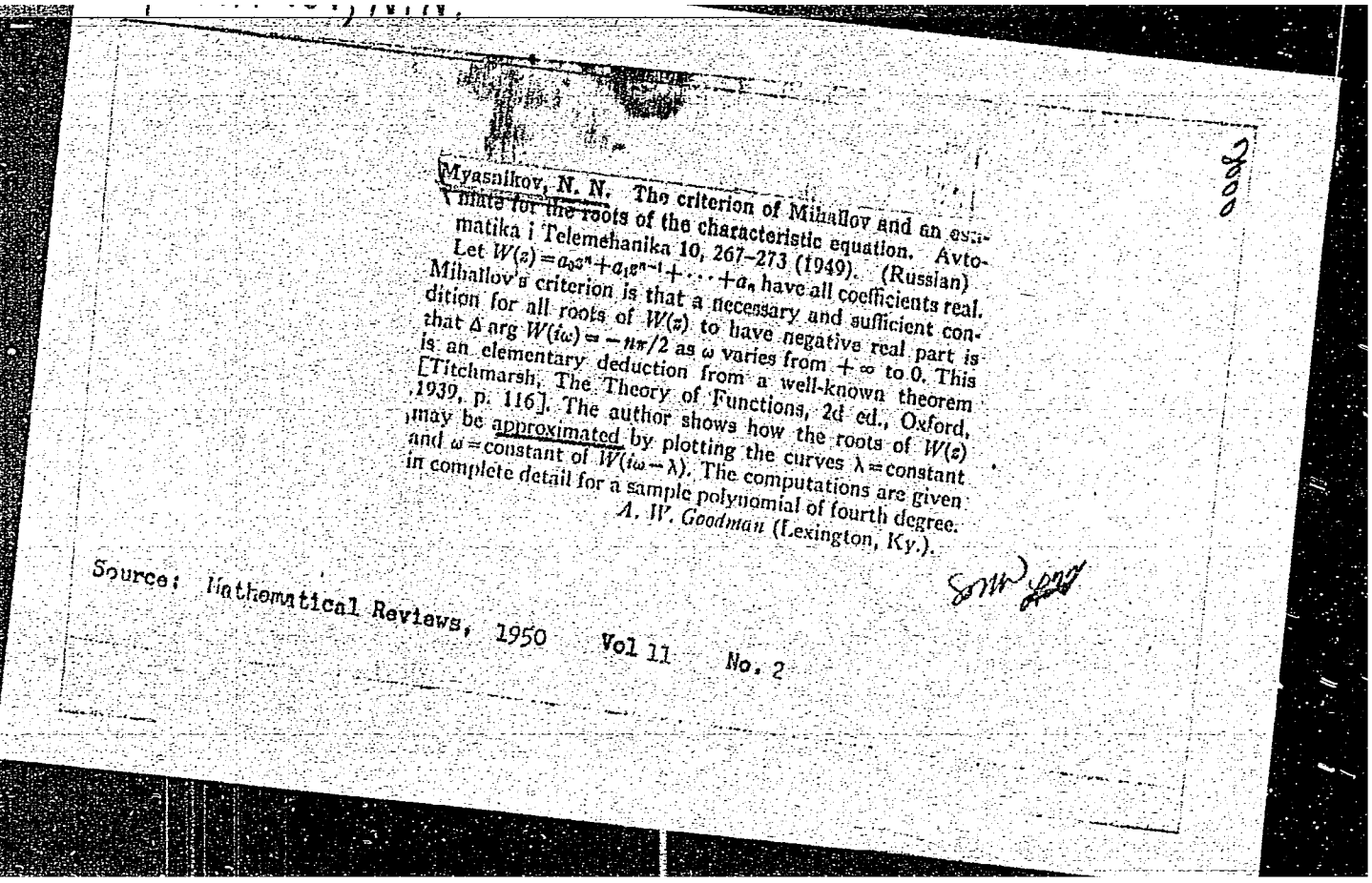
MIKERIN, A.I.; MYASNIKOV, N.I.

Electronic automatic regulators on turbocompressors. Prom. energ. 15 no.12:12-13 D '60. (MIRA 13:12)
(Automatic control) (Compressors)

N K MYASNIKOV, A D AZAT'YAN, B A GOVOROV, V P RACHENKO, L A LAMOVA, D I AGAFONOVA, YE A SERVIN, A I KARANOV

"Development of Recommendations of the Selection of Types of Electrovacuum Devices in Standard Circuits Used in Radio Engineering Apparatus and on the Procedure for Determination of Optimal and Limiting Allowable Operating Conditions for Some Types of Receiver-Amplifier Tubes in Mass Production Which Have Prospects for these Applications" from Annotations of Works Completed in 1955 at the State Union Sci. Res. Inst; Min.of Radio Engineering Ind.

So: B-3,000,964



Myasnikov, N. N. The criterion of Mihailov and an estimate for the roots of the characteristic equation. Avtomatika i Telemehanika 10, 267–273 (1949). (Russian)

Let $W(z)=a_0z^n+a_1z^{n-1}+\cdots+a_n$ have all coefficients real. Mihailov's criterion is that a necessary and sufficient condition for all roots of $W(z)$ to have negative real part is that $\Delta \arg W(i\omega)=-n\pi/2$ as ω varies from $+\infty$ to 0. This is an elementary deduction from a well-known theorem [Titchmarsh, The Theory of Functions, 2d ed., Oxford, 1939, p. 116]. The author shows how the roots of $W(z)$ may be approximated by plotting the curves $\lambda=$constant and $\omega=$constant of $W(i\omega-\lambda)$. The computations are given in complete detail for a sample polynomial of fourth degree.

A. W. Goodman (Lexington, Ky.).

Source: Mathematical Reviews, 1950 Vol 11 No. 2

MYASNIKOV, N.N.; ARTOBOLEVSKIY, I.I., akademik.

Vyshnegrad's direct control theory and the effect of retardation. Izv.AN SSSR Otd.tekh.nauk no.9:1217-1228 S '53. (MLRA 6:10)

1. Akademiya nauk SSSR (for Artobolevskiy). (Automatic control)

MYASNIKOV, N. N.

1

Myasnikov, N. N. On the influence of retardation on stability of automatic control. Trudy vtorogo vsesoyuznogo soveščaniya po teorii avtomatičeskogo regulirovaniya, Tom I [Transactions of the second all-union congress on the theory of automatic control, Vol. I], pp. 587–601. Izdat. Akad. Nauk SSSR. Moscow-Leningrad, 1955. (Russian)

The process under consideration leads to a characteristic equation of the form $q^3+aq^2+bq+c-ce^{-qs}=0$. The author considers the influence of the time lag s upon the stability of the process under various assumptions concerning the domain of the parameters. *R. Bellman.*

80948

S/024/60/000/03/010/028
E140/E463

16.9500

AUTHOR: Myasnikov, N.N. (Leningrad)

TITLE: On the Synthesis of Non-Linear Corrective Networks for Automatic Systems

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Energetika i avtomatika, 1960, Nr 3, pp 78-83 (USSR)

ABSTRACT: The basic method employed in this article is the transformation of the differential equations of the system dynamics to finite-difference equations. It is assumed that all initial equations of the system elements may be assigned to four groups: the equations of the integrating networks; first-order aperiodic networks; arbitrary non-linear characteristics, either single-valued or multi-valued; delay equations. The parameters of the system elements are assumed constant. Bashkirov's method (Ref 1,2) is used for substituting finite difference equations for the initial system equations. A graphical method is employed with the following steps: determine the system dynamics for various perturbations; by variation of the element parameters improve as far as possible the dynamic characteristics; designing a special corrective system

Card 1/2

S/024/60/000/03/010/028
E140/E463

On the Synthesis of Non-Linear Corrective Networks for Automatic Systems

to ensure the required quality of system operation. Point perturbations of various magnitudes are assumed with interval between perturbations greater than the duration of the transient process in the system. The system is assumed to be in the steady state before arrival of a perturbation. The method consists of calculating the response of the system with feedback loop open, where the form of input signal necessary to realize a desired form of output signal is calculated. The non-linear corrective network is then inserted in the feedback loop in such manner that the required input signal is obtained from the desired output response. In non-linear systems where the corrective network is different for different magnitudes of input perturbations switching of the corrective network in dependence on the input perturbation may be easily designed by this method. There are 7 figures and 3 Soviet references.

SUBMITTED: February 23 1960
Card 2/2

L 35879-66 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(l) BC

ACC NR: AP6010772 SOURCE CODE: UR/0146/66/009/001/0047/0052

AUTHOR: Myasnikov, N. N.

ORG: Leningrad Military Engineering Academy im. A. F. Mozhayskiy (Leningradskaya voyennaya inzhenernaya krasnoznamennaya akademiya)

TITLE: Effect of relay operation time on the behavior of an automatic system

SOURCE: IVUZ. Priborostroyeniye, v. 9, no. 1, 1966, 47-52

TOPIC TAGS: automatic control, automatic control system, automatic control theory

ABSTRACT: The effect of relay operation time on the dynamic characteristics of relay-type automatic systems is analyzed. All assumptions necessary for using the harmonic linearization method are made, and the parameters of symmetrical cycling conditions, with one (for the sake of simplicity) relay element are

UDC: 621.3.077.6

Card 1/2

determined. A third-order relay system is used as an example to illustrate the method. A characteristic equation for the harmonically linearized system is written. Critical values of delay, which correspond to a resulting hodograph that passes the origin of coordinates, are found. The plane of Vyshnegradskiy generalized parameters A and B consists of three specific areas: (1) The system is stable with any initial deviations if the delay is zero to small; (2) The system undergoes hard cycling, with zero-to-small delays; (3) Hard cycling with any delay. Conclusion: Whenever a nonlinear system includes delay-introducing elements, the system dynamic characteristics can be found by the joint use of the harmonic linearization method and the delay-system analysis method. Orig. art. has: 3 figures and 12 formulas.

SUB CODE: 13, 09 / SUBM DATE: 15Apr65 / ORIG REF: 007

MYASNIKOV, N.N. (Saratov)

Brief annotations of dissertations defended in the Council of Saratov Medical Institute in 1953. Klin. med. 32 no.7:75-76 Jl '54. (MLRA 7:8)
(MEDICINE)

MYASNIKOV, N.N., aspirant

Anemia in pregnancy, labor and the puerperal period. Akush. i gin. 33 no.1:44-48 Ja-F '57 (MLRA 10:4)

1. Iz Moskovskogo oblastnogo nauchno-issledovatel'skogo instituta akusherstva i ginekologii (dir. O.D. Matspanova; nauchnyy rukovoditel'-prof. V.P. Mikhaylov)
(PREGNANCY, in various dis.
anemia) (Rus)
(ANEMIA, in pregn.) (Rus)

MYASNIKOV, N.N.

The course of pregnancy, labor, and the postnatal period in conjunction with leukemia. Probl. gemat. i perel. krovi 3 no.6:55-56 N-D '58 (MIRA 12:7)

1. Iz moskovskogo oblastnogo nauchno-issledovatel'skogo instituta akusherstva i ginekologii (dir. - zasluzhennyy vrach RSFSR O.D. Matspanova, nauchnyy rukovoditel' - prof. V. P. Mikhaylov).
(LEUKEMIA) (PREGNANCY, COMPLICATIONS OF)

MYASNIKOV, N.N. (Moskva)

Role of midwives in the prevention and treatment of toxemia of pregnancy. Fel'd. i akush. 23 no.3:7-12 Mr '58. (MIRA 11:4)
(PREGNANCY, COMPLICATIONS OF)

ZAK, R.L., kand.med.nauk; MYASNIKOV, N.N.

Appendicits and pregnancy. Vop. okh. mat. i det. 5 no. 5:87-89 S-O '60. (MIRA 13:10)

1. Iz akushersko-ginekologicheskoy kliniki (zav. - prof. L.S. Persianinov) II Moskovskogo meditsinskogo instituta imeni N.I. Pirogova i rodil'nogo doma No. 23 (glavnyy vrach - zasluzhennyy vrach RSFSR R.L. Zak).
(APPENDICITIS) (PREGNANCY, COMPLICATIONS OF)

MYASNIKOV, N.N. (Moskva)

Anomalies of the location and detachment of the placenta.
Fel'd. i akush. 27 no.2:3-7 F '62. (MIRA 15:3)
(PLACENTA—DISEASES)

MYASNIKOV, N.V., inzh.

Hundredth anniversary of the Moscow steamship line. Gor.khoz.Mosk. 32 no.12:16-18 D '58. (MIRA 11:12)
(Moskva River--Navigation) (Moscow--Harbors)

MYASNIKOV, N.V.

Waterways in the service of the inhabitants of Moscow. Gor.khoz. Mosk. 34 no.6:9-13 Je '60. (MIRA 13:7)
(Moscow Province--Inland navigation)

BOBKOV, Nikolay Vladimirovich; GUREVICH, Sh.M., dots., kand. ekon. nauk, retsenzent; KOVALEV, A.I., retsenzent; MYASNIKOV, N.V., red.

[General course in river transportation] Obshchii kurs rechnogo transporta. Moskva, "Transport," 1964. 212 p. (MIRA 17:4)

ALENT'YEV, O.O. [Alent'iev, O.O.], doktor tekhn. nauk;
MYASNIKOV, O.A. [M'iasnykov, O.A.]

Dilatometric method for analyzing the processes taking place in the charge during heating. Khim. prom. [Ukr.] no.3:28-29 Jl-S '63. (MIRA 17:8)

1. Kiyevskiy politekhnicheskiy institut (for Alent'yev).
2. Ukrainskiy filial Vsesoyuznogo nauchno-issledovatel'skogo instituta steklyanogo volokna (for Myasnikov).

MYASNIKOV, P.A.; OKUNEV, A.I.; KOCHNEV, M.I.; STRIZHOV, G.F.; VERMENICHEV, S.A.

Testing a turbulent dust-oxygen burner in a recirculation furnace. Trudy Inst. met. UFAN SSSR no.8:5-15 '63. (MIRA 17:9)

KOCHNEV, M.I.; OKUNEV, A.I.; MYASNIKOV, P.A.; VERMENICHEV, S.A.; SERGIN, B.I.; STRIZHOV, G.F.

Smelting Ural copper-zinc concentrates in suspension with an oxygen blow. Trudy Inst. met. UFAN SSSR no.8:17-31 '63. (MIRA 17:9)

KOCHNEV, M.I.; OKUNEV, A.I.; MYASNIKOV, P.A., VERMENICHEV, S.A.; SERGIN, B.I.; BAZHANOV, L.N.

Smelting sulfide materials in an oxygen-enriched flame without the use of a carbonaceous fuel. Trudy Inst. met. UFAN SSSR no.8:33-42 '63. (MIRA 17:9)

MYASNIKOV, P.A., fel'dsher (selo Shapkino Gor'kovskoy oblasti)

Medical care of school children. Fel'd. i akush. 26 no.12:47-48 D '61. (MIRA 14:12)

(SCHOOL HYGIENE)

137-58-6-11960

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 110 (USSR)

AUTHORS: Myasnikov, P.A., Bazhanov, L.N.

TITLE: Improving the Cross-sectional Shape of Reverberatory Copper Furnaces (Ratsional'nyy poperechnyy profil' medeplavil'noy otrazhatel'noy pechi)

PERIODICAL: Byul. tsvetn. metallurgii, 1957, Nr 18, pp 18-23

ABSTRACT: Special experiments were conducted to determine the rate of smelting of the charge in a reverberatory furnace. At 3 points along the bank, longitudinally in the furnace (at distances of 7.2, 14.4, and 18.6 m from the front wall), the charge was smelted in boxes made of roofing iron sunk into the bank flush with its surface. Temperature change was monitored by two thermocouples in each box. Investigations showed three sharply-defined zones to exist vertically in the layer of charge on the banks during the heat: a drying zone, a heating zone, and a zone of fusion. In the drying zone there is a very slow rise to 100°C; in the heating zone a rise to 900° proceeds 5 times as fast (in 5 min); there is virtually no change in temperature in the zone of fusion. The thickness of the drying zone

Card 1/2

137-58-6-11960

Improving the Cross-sectional Shape of Reverberatory Copper Furnaces

(at the flue end of the furnace) is 750 mm, while the heating zone is 10 mm thick and the zone of fusion is 6 mm thick. At the firing end the thicknesses are, respectively, 5 5, 4 5 and 1 mm, i.e., considerably less, a fact that is explained by the greater emission of heat by the flame there. The mean rate of fusion along the entire length of the bank is 435 kg/m^2·hr. Along the height of the bank, the maximum rate of fusion is that in the middle portion. The mean heat absorption of the molten bath is 34,000 kcal/m^2·hr, and that of the banks is 118,000 kcal/m^2·hr as determined by calculations and measurements. The general conclusion from the results of the investigation is that the bath is poorly heated and does a bad job of separating matte from slag, discharging rich waste slags (0.46-0 56% Cu). To improve the work of the furnace and increase its productivity, it is proposed to broaden the upper portion of the furnace and the roof, designing the side walls to slope, and to run the heat with a thin layer of slag on the banks, which would broaden the surface of the molten bath and improve the heating thereof.

A.P.

1. Copper ores--Processing 2. Furnaces--Performance 3. Furnaces--Design
4. Thermocouples--Applications

Card 2/2

MYASNIKOV, P.A., inzh.

High pressure compressed air burners for open-hearth furnaces.
Biul. TSNIICHM no.23:12-17 '57. (MIRA 11:2)
(Open-hearth furnaces)
(Oil burners)

MYASNIKOV, P.A.; OKUNEV, A.I.; LUTOKHIN, D.I.

Cyclone smelting of copper-zinc concentrates. Trudy Inst. energ. AN Kazakh. SSR 2:274-284 '60. (MIRA 15:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut metallurgicheskoy teplotekhniki (for Myasnikov). 2. Ural'skiy nauchno-issledovatel'skiy i proyektnyy institut mednoy promyshlennosti (for Okunev). 3. Srednеural'skiy medeplavil'nyy zavod (for Lutokhin).
(Smelting furnaces) (Copper-zinc alloys)

KOCHNEV, M.I.; OKUNEV, A.I.; MYASNIKOV, P.A.; VERMENICHEV, S.A.; SERGIN, B.I.; STRIZHOV, G.V.

Smelting Ural copper-zinc concentrates in suspension with oxygen blow. Tsvet. met. 33 no.10:20-23 O '60. (MIRA 13:10)

1. Ural'skiy filial Akademii nauk SSSR; Ural'skiy nauchno-issledovatel'skiy i proyektnyy institut mednoy promyshlennosti i Vsesoyuznyy nauchno-issledovatel'skiy institut metallurgicheskoy teplotekhniki.
(Ural Mountains--Nonferrous metals--Metallurgy)
(Oxygen--Industrial applications)

STRIZHOV, G.F.; MYASNIKOV, P.A.

Investigating the oxidation roasting of ilmenite concentrates in a vortex chamber. Stal' 21 no. 4:326-332 Ap '61. (MIRA 14:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut metallurgicheskoy teplotekhniki.
(Ore dressing) (Ilmenite)

STRIZHOV, G.F.; MYASNIKOV, P.A.; PLINER, Yu.L.

Efficient operating conditions for aluminum pulverizing equipment.
Stal' 23 no. 3:234-237 Mr '64. (MIRA 17:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut metallurgicheskoy teplotekhniki i Klyuchevskiy zavod ferrosplavov.

L 27418-66 EWT(m)/EWP(t)/ETI IJP(c) JD/JH

ACC NR: AR6009952 SOURCE CODE: UR/0137/65/000/012/G017/G017

AUTHORS: Pliner, Yu. L.; Kyasnikov, P. A.; Strizhov, G. F.; Ivanov, L. A.; Shabanov, P. G.

57
B

TITLE: Increasing the efficiency of an installation for spraying aluminum

18 27

SOURCE: Ref. zh. Metallurgiya, Abs. 12G119

REF SOURCE: Sb. tr. Klyuchevsk. z-da ferrosplavov, vyp. 1, 1965, 106-111

TOPIC TAGS: aluminum, aluminum powder, atomization

ABSTRACT: A new sprayer nozzle design provides better operating characteristics with the following dimensions and condition parameters of the aluminum and sprayer: nozzle diameter - 26 mm; liquid jet diameter - 15 mm; air gap - 1.5--3.0 mm; pot temperature of Al - 710--750C; pot pressure of Al - 2.5--3.0 kg/cm^2; specific air flow rate - 0.19--0.24 kg/kg; sprayer pressure - 4--5 kg/cm^2. With the fulfillment of the cited parameters the productivity of sprayer installations can reach 2100--2600 kg/hr, which exceeds by 45--95% the productivity of nozzles used in the factory up to 1962. The content of substandard fractions comprises 16--20%. G. Svodtseva (Translation of abstract)

SUB CODE: 11

2

Card 1/1 lg

UDC: 669.71.4

L 43090-66 EWP(k)/EWT(m)/EWT(e)/EWP(t)/ETI IJP(c) JH/JD

ACC NR: AR6014364 (A,N) SOURCE CODE: UR/0137/65/000/011/G012/G012

AUTHORS: Myasnikov, P. A.; Strizhov, G. F.; Ivanov, L. A.

TITLE: On the methodology of atomizer design employed for atomization of aluminum

SOURCE: Ref. zh. Metallurgiya, Abs. 11G81

REF SOURCE: Sb. tr. Klyuchevsk. z-da ferrosplavov, vyp. 1, 1965, 112-116

TOPIC TAGS: atomization, spray nozzle, metal powder, aluminum

ABSTRACT: In the design of atomizers (A), the following questions must be considered: 1) determination of working parameters of the metal and sprayer (S) to insure the given particle size composition of the Al powder; 2) determination of the dimensions of A. The initial data in the design of A are as follows: 1) efficiency of A in kg/g; 2) specific flow rate of S in kg/kg Al; 3) temperature of S in K; 4) pressure of S in front of A in bar; 5) pressure of metal in front of A in bar. The values for the coefficients and all equations used in the calculations are presented. 2 illustrations. V. Semakin [Translation of abstract]

SUB CODE: 11, 13

UDC: 669.71.04

Card 1/1

MYASNIKOV, P. D.

AUTHOR: Revyakin, V.P., Candidate of Technical Sciences, Lecturer, and Myasnikov, P.D., Engineer. 122-1-18/34

TITLE: The repair of metal cutting machine tool bearings by electro-deposition methods. (Remont podshipnikov metallorezhushchikh stankov gal'vanicheskim metodom)

PERIODICAL: "Vestnik Mashinostroyeniya" (Engineering Journal), 1957, No.1, pp. 67 - 69 (U.S.S.R.)

ABSTRACT: Detailed procedures employed by the Irkutsk Engineering Plant (Irkutskiy Mashinostroitel'niy Zavod) imeni V.V.Kuibysheva are described for depositing an anti-friction zinc alloy to a thickness of 1 mm (radial) on the inside of worn-out machine tool bronze bearings. The alloy contains 0.5 - 1.0% Fe, 0.5 - 1.0% Pb, rest zinc. 12 000 hours of testing have proved the suitability of the alloy. Bronze and cast iron bearing inserts can be electro-plated with the iron zinc alloy to the required build-up without subsequent machining. The plating of inner surfaces of complete bronze bearing sleeves is accomplished with rod-shaped anodes.

Card 1/1

AVAILABLE: Library of Congress

MYASNIKOV, P.D.

122-4-14/29

AUTHOR: Revyakin, V.B., Candidate of Technical Sciences, and Myasnikov, P.D., Engineer.

TITLE: The iron plating of machine components in repair work. (Zheleznenie detaley mashin pri remonte.)

PERIODICAL: "Vestnik Mashinostroeniya" (Engineering Journal), 1957, No.4, pp. 64 - 65 (U.S.S.R.)

ABSTRACT: Iron plating for the restoration of worn components is normally carried out in an electrolyte consisting of iron chloride, common salt and hydrochloric acid. This electrolyte does not yield deposits with good adhesion. In the Irkutsk Engineering Plant (Irkutskiy Mashinostroitel'niy Zavod) "imeni V.V. Kuybysheva" a better electrolyte was tested in service, containing iron chloride, manganese chloride and hydrochloric acid. Deposits of up to 5 to 6 mm thickness can be obtained. From a bath of 650 g/litre FeCl, 100 g/litre MnCl and 0.06 g/litre HCl at a temperature of 70 °C and a current density of 15 A/dm^2 a coat of about 200 Brinell hardness can be obtained; greater wear resistance is achieved in more dilute baths with 300 g/litre $FeCl_2$, 200 g/litre $MnCl_2$, 70 g/litre NH_4Cl and 0.8 g/litre HCl, a maximum current density of 9 A/dm^2 and a temperature of 65 °C when

1/2

The iron plating of machine components in repair work. (Cont.)

wear resistant deposits of up to 2 mm with a hardness of 400 Brinell can be obtained.

2/2

There is 1 graph.

AVAILABLE:

MYASNIKOV, P.F.

Modernizing the DIP-500 machine tool. Stroi.i dor.mashinostr. no.7:30 Jl '59. (MIRA 12:11)
(Machine tools)

MYASNIKOV, P.S., kand. tekhn. nauk.

Automatic switching of unit feeding in d.c. electric power systems on ships. Sudostroenie 24 no.11:38-41 N '58. (MIRA 12:1)
(Electricity on ships) (Electric switchgear)

MYASNIKOV, P.V.

O sushchestvovanii resheniia problemy struinogo techeniia zhidkosti vokrug tel s krivolineinymi stenkami. (Moscow. Universitet. Uchenye zapiski. 1937, no. 7: Mekhanika. p. 123-143)

Summary in English.

Title tr.: On the existence of a solution to the problem of fluid flow around bodies with curved walls.

QA1.M8o8 1937, no. 7

SO. Aeronautical Science and Aviation in the Soviet Union. Library of Congress, 1955.

Мясников, П.В.

Myasnikov, P. V. On the representation of the motion of a rigid body about a fixed point by means of governing surfaces. Vestnik Moskov. Univ. 4, no. 10, 19–27 (1949). (Russian)

This carelessly edited paper deals with gyrations (M) for which the angular-momentum vector K (hence also the resultant torque) has a fixed direction. The simple basic fact is that for motions (M) the ratio T/K^2 is constant (T is kinetic energy). If Ox, Oy, Oz are the inertial axes for the fixed point O, the "governing" (entrained) ellipsoid $x^2/A+y^2/B+z^2/C=2T/K^2$ (A, B, C are the principal moments of inertia at O) contains the tip of the unit vector coaxial with K. Further, the distance from O of the tangent plane at the ellipsoid's intersection with the angular-velocity vector ω is $\cos(\omega, K)$. The author seems to want next to show that every gyration can be significantly associated with a motion of type (M). This the reviewer failed to grasp. The association is illustrated by means of a highly invented example. *A. Wintner* (Chicago, Ill.).

Source: Mathematical Reviews, Vol 11 No. 10

MYASNIKOV, P. V.

Mathematical Reviews
Vol. 15 No. 4
Apr. 1954
Mechanics

Myasnikov, P. V. On the pressure of a free plane jet on an obstacle. Vestnik Moskov. Univ. Ser. Fiz.-Mat. Estest. Nauk 1950, no. 6, 3–20 (1951). (Russian)

L'auteur reprend un schéma voisin de celui des sillages classiques de Helmholtz-Kirchhoff et étudie les écoulements plans, permanents, à potentiel d'un liquide, le domaine du mouvement étant limité par des lignes libres et un obstacle rectiligne. L'auteur complète les formules bien connues en explicitant les valeurs de la pression et des composantes de la vitesse en chaque point de l'écoulement (en fonction des paramètres réels auxiliaires) et où les graphiques de distribution des pressions le long du profil immergé indiquent les formules approchées suffisantes pour les applications. La partie expérimentale du mémoire paraît plus originale. L'auteur donne des conditions de réalisation au laboratoire de ses schémas et compare ses prévisions théoriques avec les résultats de ses essais. L'accord paraît satisfaisant.

J. Kravtchenko (Grenoble).

MYASNIKOV, P.V.

Certain special occurrences in the movement of a solid body around a fulcrum. Vest.Mosk.un. 8 no.12:59-61 D '53. (MLRA 7:2)

1. Kafedra teoreticheskoy mekhaniki. (Mathematical physics)

PETROVSKIY, I.G.; VOVCHENKO, G.D.; SALISHCHEV, K.A.; SERGEYEV, E.M.; MOSKVITIN, V.V.; SRETENSKIY, L.V.; GEL'FOND, A.D.; GOLUBEV, V.V.; ALEKSANDROV, P.S.; SOBOLEV, S.L.; BAKHVALOV, S.B.; OGUBALOV, P.M.; KREYNES, M.A.; MYASNIKOV, P.V.; ZHIDKOV, M.P.; GAL'PERN, S.A.; ZHEGALKINA-SLUDSKAYA, M.A.

Vsevolod Aleksandrovich Kudriavtsev; obituary. Vest.Mosk.un. 8 no.12:129 D '53. (MLRA 7:2)
(Kudriavtsev, Vsevolod Aleksandrovich, 1885-1953)

MYASNIKOV, P.V.

USSR/Physics - Gyroscopic Rotation FD-768

Card 1/2 : Pub 129-5/24

Author : Myasnikov, P. V.

Title : A new method for isolating from the general problem of the rotation of a heavy solid body around a fixed point the integrable cases of motion. A new particular case of motion.

Periodical : Vest. Mosk. un., Ser. fizikomat. i yest. nauk, Vol 9, Nc 2, 47-55, Mar 1954

Abstract : Discusses: the characteristic plane and its connection with the problem of find the fourth algebraic primary integral; the general idea of the method; the Euler-Poinsot case, the Lagrange-Poisson case, and the Bobylev-Steklov case; permanent relations and pendulum - like motions; the cases of the spherical gyroscope and of the loxodromic pendulum; the new particular case.

FD-768

Card 2/2

Twelve references including A. A. Bogoyavlenskiy, "Certain conditions necessary for the existence of single-valued solutions to the problem on the motion of a heavy solid body around a fixed point," candidate dissertation under guidance of Prof. N. G. Chetayev, Corr,-Mem. Acad. Sci. USSR, Institute of Mechanics, Acad Sci USSR.

Institution : Chair of Theoretical Mechanics

Submitted : November 27, 1953

Myasnikov, P. V.

Myasnikov, P. V. A new method of finding a class of integrable cases of motion from the general problem of rotation of a heavy rigid body about a fixed point. Moskov. Gos. Univ. Uč. Zap. 172 (1954), Meh. 5, 143–162. (Russian)

The paper surveys all the cases of integrability in which the angular momentum has a constant projection on the line joining the fixed point with the mass center, the latter lying in one of the principal planes of inertia. All the cases found are known. *A. W. Wundheiler.*

1 - F/W

MYASNIKOV, R. Ye.

PA 152T58

USSR/Medicine - Strychnine Therapy Aug 49
Pneumonia

"Therapy Involving the Use of Large Doses of Strychnine," R. Ye. Myasnikov, Lezhnevo Village, 3/4 p

"Sov Med" No 8

Method used with success in Vyborg Rayon Hosp, Molotov Oblast, was based on that of Prof Ryabov appearing some years ago in "Sov Med." It consists of subcutaneous administration of 2 cc of 0.1% strychnine solution once a day for a month of 2 cc b.i.d. for 15 days. Diseases treated were typhus, nontubercular forms of [redacted] 152T58

USSR/Medicine - Strychnine Therapy Aug 49
(Contd)

pneumonia, degeneration of the cardiac muscle, climacteric neuroses, neurasthenia, etc., and in some cases pneumocardial syndrome and cardiac decompensation. No complications arose during or after treatment. It is recommended as a safe method in above-mentioned diseases.

[redacted] 152T58

GREBENNIKOV, O.F.; MYASNIKOV, S.I.; KARELIN, Yu.A.; ZUBKOV, G.A.

Attachment to the 16S-2 "Kiev" motion-picture camera for semiautomatic control of the lens diaphragm. Trudy LIKI no.11:35-38 '64.

(MIRA 18:10)

1. Kafedra kinofotoapparatury Leningradskogo instituta kinoinzhenerov.

of ethyl alcohol in water. [illegible]

Card 1/4

S/046/61/007/001/001/015
B104/B204

6.8000 (and 1147, 1155)

AUTHORS: Barkhatov, A. N., Myasnikov, S. P

TITLE: Experimental field studies in the case of "antichannel" sound propagation

PERIODICAL: Akusticheskiy zhurnal, v. 7, no. 1, 1961, 18-20

TEXT: The authors investigated the sound field in a laminated medium, in which the following relations hold for the velocity of sound:

$$c = \begin{cases} c_0/\sqrt{1 - 2az} & \text{with } 0 < z \leq H \\ c_m/\sqrt{1 + 2b(z - H)} & \text{with } z \geq H \end{cases}$$

Here, c_0 is the velocity of sound on the level $z = 0$, $c_m = c_0/\sqrt{1 - 2aH}$ is the maximum velocity with $z = H$, a and b are positive constants and the positive direction of z is directed downward. Further, it is assumed that the velocity of sound in the semispace $z < 0$ is small compared to that in the semispace $z > 0$. Such a medium can be produced experimentally in a tank by diffusion of ethyl alcohol in water. At that depth where 25-30% alcohol is concen-

S/046/61/007/001/001/015
B104/B204

Experimental field studies ...

trated, a maximum velocity exists. In the experimental arrangements used by the authors, special sound absorbers were used on the bottom, which prevented sound reflection, while sound reflection from the walls was avoided by using a sound emitter with a narrow directional diagram. Investigations were carried out at 450 kc, 950 kc, and 2 Mc by means of [redacted] pulses, with a pulse frequency of 50 pulses/sec and a duration of 150-200 μsec. On the left side of Fig. 1, the velocity of sound as a function of depth is graphically represented. In Fig. 1, on the right, the sound field is outlined, if the sound emitter O is below that layer, in which the velocity of sound attains a maximum. Furthermore, a report is made on a region, in which the sound intensity decreases more quickly than might be expected if the receiver is moved away from the sound emitter. The position of this dark region depends on the gradient of sound velocity above and below the axis of the "antichannel". With an increase of this gradient, this boundary shifts in the direction of that region, in which intensity decreases corresponding to spherical sound propagation. Besides the velocity gradients, the sound frequency produces an effect upon the damping of sound within this dark region. Fig. 2 shows the sound intensity in the plane of the sound emitter (Fig. 1) as a function of the distance

Card 2/4

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B104/B204

Experimental field studies ...

from the emitter. Two zones of the decrease of the sound amplitude may be distinctly discerned. The dotted line shows the boundary of the gecmetric shadow. Within the region above that layer, which has the maximum sound velocity, the sound amplitude is attenuated to an extent that corresponds to cylinder waves. There are 3 figures and 3 references: 2 Soviet-bloc and 1 non-Soviet-bloc.

ASSOCIATION: N.-i radiofizicheskiy institut pri Gor'kovskom gosudarstvennom universitete (Scientific Radio-physical Research Institute, Gor'kiy State University)

SUBMITTED: March 18, 1960

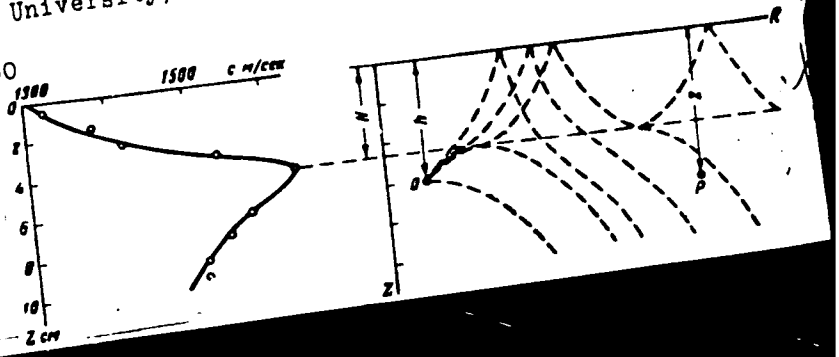
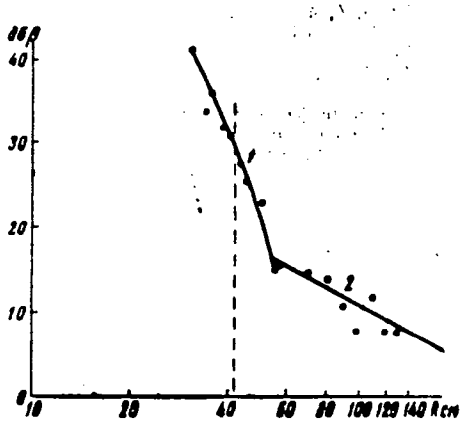


Fig. 1

Card 3/4

Experimental field studies ...

Fig. 2



Card 4/4

MYASNIKOV, S.P., sanitarnyy vrach

New regulations for the protection of water supplies from pollutions.
Gig. i san. 26 no.11:89 N '61. (MIRA 14:11)

1. Iz sanitarno-epidemiologicheskoy stantsii Mariyskoy ASSR.
(WATER POLLUTION)

MYASNIKOV, U.

"Data on Study of Effectiveness of Anti-Tularemia Vaccinations," from the monograph Effect of Vaccination Against Tularemia, 1953. p. 124

Translation D 568409

MYASNIKOV, V., mayor

Six pages. Voen. znan. 41 no.4:12-13 Ap '65. (MIRA 18:3)

2-389

S/177/61/000/005/003/003
D264/D305

21 2200

AUTHORS: Myasnikov, V.A. and Mashkov, G.V., Lieutenant-Colonels, Medical Corps

TITLE: A case of marked barotrauma of the lungs with arterial gas embolism

PERIODICAL: Voyenno-meditsinskiy zhurnal, no. 5, 1961, 77-79

TEXT: The article describes a case of pulmonary barotrauma with arterial gas embolism accompanied by almost all the typical symptoms and by another, unusual symptom - convulsions. Barotrauma developed through failure in a diver's oxygen supply at a depth of 10 meters. The diver was sent to a recompression chamber. Fifteen minutes after being raised to the surface he developed clonic convulsions in fits of 10-15 seconds duration and at intervals of 2-3 minutes, and then 5-7 minutes. The convulsions were of the opisthotonos type, bending the head

Card 1/3

29309
S/177/61/000/005/003/003
D264/D305

A case of marked barotrauma ..

and lower extremities. They lasted about 25 minutes and were reminiscent of convulsions from oxygen poisoning. The barotrauma is attributed to two factors: a) to deep inhalation from an empty respiratory sac, leading to exhaustion of the lungs and overstretching of the lung tissue beyond its elasticity which, in turn, led to barotrauma and subsequent gas embolism; b) as a result of a blow from the respiratory sac (although this is thought less likely), leading to a marked rise in lung pressure and the development of barotrauma. The clonic convulsions were due to pathological disturbances in the central nervous system, and primarily in the cerebral cortex. Some time after the barotrauma the gas emboles move along the blood stream and may penetrate the cerebral vessels, causing convulsions through disturbance of the blood supply to individual sections, with resultant pathological processes in the nerve cells. The mechanism of these pathological processes is still not clear. The

Card 2/7

2939

S/177/61/000/005/001/004

A case of marked barotrauma . D264/D305

symptoms of pneumo- and hemo-thorax and also subcutaneous em physema of the neck and upper part of the thorax and spine, which developed under therapeutic decompression, were obviously due to lesions of individual sections of the visceral pleura The author concludes that, in treating barotrauma of the lungs with marked symptoms of illness, the pressure in the decompres sion chamber should be raised to 8-10 atm., despite the fact that the symptoms may have disappeared at a lower pressure.

SUBMITTED: April 1960

Card 1/1

L 34114-65 EWT(d)/EWP(1) Po-4/Pq-4/Pg-4/Pk-4/P1-4 IJP(c) GS/BC
ACCESSION NR: AT5003621 S/0000/64/000/000/0188/0201

AUTHOR: Zhandarov, M. Ye.; Korotkov, S. V.; Myasnikov, V. A.; Pivovarov, V. T.; Stabnikova, G. V.; Tarasenko, Ye. V.

TITLE: Experimental outfit for studying combined digital servos with a harmonic input signal

SOURCE: AN SSSR. Institut elektromekhaniki. Avtomatizirovannyy elektroprivod (Automated electric drive). Leningrad, Izd-vo Nauka, 1964, 188-201

TOPIC TAGS: servo, servo system, digital servo system

ABSTRACT: The outfit consists of a special computer and an executive system. The computer comprises two semiconductor integrators with a parallel carry of integrand and a high-speed carry of overflow units. Each integrator (described elsewhere) includes a reversible counter and a storage unit. The integrators are connected for yielding the increments $\Delta \sin \omega t$ and $\Delta \cos \omega t$, i.e., the increments

Card 1/2

L 3[illegible]14-65

ACCESSION NR: AT5003621

of coordinates of a point that travels along a circle. The sine function is generated with an accuracy up to the 20th binary digit. Also, the means for computing a time-derivative of angle are provided. A principal circuit diagram of the outfit is explained in some detail. The combined digital servo system consists of a coordinate servo and a rate (or speed) servo. Information about coordinate $\sin \omega t$ and its rate of change $\cos \omega t$ comes from the computer and is fed into the corresponding servos. The coordinate information appears periodically; the rate, continuously. The outfit permits investigating two-motor "angle-angle" servos as well as two- and single-motor "angle-rate" servos. Orig. art. has: 8 figures, 12 formulas, and 1 table.

ASSOCIATION: none

SUBMITTED: 08Jul64 ENCL: 00 SUB CODE: DP, IE

NO REF SOV: 009 OTHER: 000

Card 2/2

L 31152-65 EED-2/EWT(d)/EWP(1) Pg-4/Pk-4/Po-4/Pq-4 IJP(c) GG/BB/GS

ACCESSION NR: AT5003624 S/0000/64/000/000/0239/0242

36
641

AUTHOR: Maksimov, V. P.; Myasnikov, V. A. Pivovarov, V. T.

TITLE: Binary pulse counter with a short transient time

160

SOURCE: AN SSSR. Institut elektromekhaniki. Avtomatizirovannyy elektroprivod (Automated electric drive). Leningrad, Izd-vo Nauka, 1964, 239-242

TOPIC TAGS: binary counter, pulse counter

ABSTRACT: A 21-digit binary pulse counter intended for operation at 1.296 Mc (angle-to-number converter) and required to receive pulses, deliver reading, and clearing in 0.77 μ sec is briefly described. The standing-on-nines carry is used for the lower eleven digits while a speedier carry — logical carry — is employed for the upper ten digits. In the latter method, the input pulse is applied to the trigger which receives the overflow unit. This is provided by a 10-input voltage gate. Thus, the transient time of the counter is determined by the gate time and

Card 1/2

L 34152-65

ACCESSION NR: AT5003624

by the trigger-flip time because the pulse comes to all digits simultaneously. This transient time is only 0.3—0.4 μsec. An input resolution time of 0.5 μsec is claimed for the entire counter. Orig. art. has: 2 figures and 1 formula.

ASSOCIATION: none

SUBMITTED: 08Jul64 ENCL: 00 SUB CODE: DP, EC

NO REF SOV: 002 OTHER: 000

Card 2/2

VOLYNKIN, Yu.M.; ARUTYUNOV, G.A.; ANTIPOV, V.V.; ALTUKHOV, G.V.; BAYEVSKIY, R.M.; BELAY, V.Ye.; BUYANOV, P.V.; BRYANOV, I.I.; VASIL'YEV, P.V.; VOLOVICH, V.G.; GAGARIN, Yu.A.; GERIN, A.M.; GORBOV, F.D.; GORSHKOV, A.I.; GUROVSKIY, N.N.; YESHANOV, N.Kh.; YEGOROV, A.D.; KARPOV, Ye.A.; KOVALEV, V.V.; KOLOSOV, V.A.; KORESHKOV, A.A.; KAS'YAN, I.I.; KOTOVSKAYA, A.R.; KALIBERDIN, G.V.; KOPANEV, V.I.; KUZ'MINOV, A.P.; KAKURIN, L.I.; KUDROVA, R.V.; LEBEDEV, V.I.; LEBEDEV, A.A.; LOBZIN, P.P.; MAKSIMOV, D.G.; MYASNIKOV, V.I.; MALYSHKIN, Ye.G.; NEUMYVAKIN, I.P.; ONISHCHENKO, V.F.; POPOV, I.G.; PORUCHIKOV, Ye.P.; SIL'VESTROV, M.M.; SERYAPIN, A.D.; SAKSONOV, P.P.; TERENT'YEV, V.G.; USHAKOV, A.S.; UDALOV, Yu.F.; FOMIN, V.S.; FOMIN, A.G.; KHLEBNIKOV, G.F.; YUGANOV, Ye.M.; YAZDOVSKIY, V.I.; KRICHAGIN, V.I.; AKULINICHEV, I.T.; SAVINICH, F.K.; SIMPURA, S.F.; VOSKRESENSKIY, O.G.; GAZENKO, O.G., **SISAKYAN, N.M.**, akademik, red.

[Second group space flight and some results of the Soviet astronauts' flights on "Vostok" ships; scientific results of medical and biological research conducted during the second group space flight] Vtoroi gruppovoi kosmicheskii polet i nekotorye itogi poletov sovetskikh kosmonavtov na korabliakh "Vostok"; nauchnye rezul'taty medikobiologicheskikh issledovanii, provedennykh vo vremia vtorogo gruppovogo kosmicheskogo poleta. Moskva, Nauka, 1965. 277 p. (MIRA 18:6)

MYASNIKOV, I A.

Fuel Abst.
Vol. 15 No. 4
Apr. 1954
Analysis, Testing,
Instruments

(CA 47 no.21:11709 '53)

MYASNIKOV, V.A., inzhener-laborant

Results of an analysis of sludge from the cooling system of diesel locomotives. Elek. i tepl. tiaga 2 no.2:18 F '58. (MIRA 11:4)

1. Dorozhnaya khimiko-tekhnicheskaya laboratoriya Orenburgskoy dorogi.
(Diesel locomotives) (Diesel fuels)

MYASNIKOV, V.A.

Advice to laboratory workers. Elek. i tepl. tiaga 2 no.3:36 Mr '58.
(MIRA 11:4)

1. Inzh.-laborant dorozhnoy khimiko-tekhnicheskoy laboratorii, Orenburg.

(Water--Analysis)

ACC NR: AR7002214 SOURCE CODE: UR/0271/66/000/010/A035/A035

AUTHOR: Korotkov, S. V.; Myasnikov, V. A.; Sabinin, Yu. A.

TITLE: Principles in the design of digital control systems for astronomical instruments

SOURCE: Ref. zh. Avtomatika, telemekhanika i vychislitel'naya tekhnika, Abs. 10A257

REF SOURCE: Sb. Avtomatizir. elektroprivod proizv. mekhanizmov, T. I. M. -L., 1965, 188-194

TOPIC TAGS: astrophysic instrument, servomechanism, digital computer system, space coordinate system, geodesy

ABSTRACT: An analysis is made of theoretical problems in the design of digital servodrive for azimuthal instruments. The system includes a computer for the conversion of equatorial into azimuthal coordinates, a transmitter for indicating the true position of the instrument's axes in space, and an adjusting mechanism for the azimuthal and zenithal positions controlled by the computer. With a

Card 1/2 UDC: 62-55

ACC NR: AR7002214

Q factor of 100, the system must insure a fluctuation index of M-1 and overall accuracy $\geq 10''$. Recommendations are made, on the basis of the analysis, for a method of determining the time quantum period for the automatic control system and for simplified design and engineering formulas are proposed. A description is given of a complex dual-motion drive system, using an integrating differential gear, which provides consistent velocity control within a wide range. A method is also proposed for reducing the number of leveling and calculating operations for this control system. The text includes 4 illustrations and 9 bibliographic references. [Translation of abstract] [KP]

SUB CODE: 03, 09/

Card 2/2

POPOV, O.V.; MYASNIKOV, V.A.

Delayed feedback of voltage and electromagnetic moment of a motor in a reversive electric drive. Sbor. rab. po top. elektromekh. no.10:290-304 '63. (MIRA 17:8)

57-6-9/36

AUTHOR: BOGOMOLOV, V.N., MYASNIKOV, V.A.

TITLE: Apparatus for the Hall Effect Measurements in Semiconductors (Ustanovka dlya izmereniya effekta Kholla v poluprovodnikakh. Russian)

PERIODICAL: Zhurnal Tekhn. Fiz. 1957, Vol 27, Nr 6, pp 1209 - 1214 (U.S.S.R.)

ABSTRACT: Of three basic methods: method of the constant magnetic field and of direct current, method of the constant field and of alternating current, and method of the alternating field and alternating current, the latter is investigated here. According to this method the Hall-e.m.f. is measured in the case of sum- and difference frequency. It is the difference between the intelligence signal and the disturbance in relation to the frequency that constitute the advantage of this method over others. In realizing these advantages the following difficulties develop: 1.) The component with the frequency ω_H of the magnetic field must not be contained in the current with the frequency ω_1. 2.) The amplifier must have a narrow band pass. The first-mentioned difficulty can be overcome if the generator is fed from d.c. sources and if it is carefully screened off. The second-mentioned difficulty can not be overcome so easily. The authors built and computed an apparatus with low-ohm patterns. The frequency of the current was 75 c, the frequency of the magnetic field was 50 c. The Hall e.m.f. was measured at a frequency of 25 c. Thus it was possible to avoid both difficulties to a certain extent. In

Card 1/2

57-6-9/36

Apparatus for the Hall Effect Measurements in Semiconductors

order to reduce the flickering of the frequency at 25 c, where the Hall-e.m.f. develops, the generator- and magnetic field frequencies were synchronized. A description of the apparatus, of the generator and of the amplifier follows. (With 5 illustrations and 2 Slavic references).

ASSOCIATION Institute for Semiconductors of the Academy of Science of the U.S.S.R. Leningrad
(Institut poluprovodnikov AN SSSR, Institut Elektromekhaniki AN SSSR, Leningrad)

PRESENTED BY
SUBMITTED 14.12.1956
AVAILABLE Library of Congress

Card 2/2

MYASNIKOV, V.A., Cand Tech Sci (diss) -- "The use of the Hall effect in investigating the dynamic characteristics of electric motors". Leningrad, 1959. 21pp (Min Higher and Inter Spec Educ RSFSR, Leningrad Electrical Engineering Inst im V. I. Ul'yanov (Lenin)), 200 copies (KL, No 11, 1960, 133)

8(5)

SOV/105-59-2-11/25

AUTHORS: Sabinin, Yu. A., Candidate of Technical Sciences, Nyasnikov, V. A., Engineer

TITLE: Investigating the Magnetic Field Distribution and Determining the Electromagnetic Torque in Electrical Machines by Means of the Hall-Effect EMF Transmitter (Issledovaniye raspredeleniya magnitnogo polya i opredeleniye elektromagnitnykh momentov v elektricheskikh mashinakh pri pomoshchi datchikov e.d.s. Kholla)

PERIODICAL: Elektrichestvo, 1959, Nr 2, p 44-48 (USSR)

ABSTRACT: Great possibilities are opened by a method for measuring the magnetic flux that is based on the use of the Hall (Kholl) emf. When the Hall transmitter is fastened to the rotor the complete reproduction of the induction distribution in the air gap of d.c. and a.c. machines is obtained. When fastening the Hall transducer to the stator the induction can be measured at both stabilized processes and transient ones. As the Hall voltage is proportional to the product of current by magnetic flux the electromagnetic moment of d.c. machines can be measured immediately. At first the essential relation-

Card 1/3

Investigating the Magnetic Field Distribution and Determining the Electromagnetic Torque in Electrical Machines by Means of the Hall-Effect EMF Transmitter

ships for the Hall effect are investigated. From the formulae derived, (6) and (9), it is to be seen that the main characteristics of the semi-conductor material are the movability μ of the current carrier and the Hall constant R. For investigating electrical machines the film transmitters of the Hall emf of HgSe and HgTe are the most useful. The authors used those of HgSe for their tests. The measurement of magnetic fields in electric machines and of electromagnetic torque in d.c. machines is investigated. On the base of the tests carried out the following can be stated: by means of Hall film transmitters the following measurements can be made: 1) The magnetic field in electric machines of any type can be measured with a maximum error of not more than 5%. 2) The constant and the alternating magnetic fields can be measured, simultaneously, at both, stabilized and transient operations. The measuring error does not increase at this. 3) The electromagnetic torque of the d.c. machines can directly be measured and recorded by an oscillograph. The measuring accuracy depends

Investigating the Magnetic Field Distribution and Determining the Electromagnetic Torque in Electrical Machines by Means of the Hall-Effect EMF Transmitter

on the number of transmitters used. Sometimes it is sufficient for practical purposes to use 3 Hall transmitters, sometimes even just one. There are 10 figures and 4 references, 3 of which are Soviet.

SUBMITTED: July 17, 1958

PHASE I BOOK EXPLOITATION SOV/4706

Akademiya nauk SSSR. Institut elektromekhaniki

Sbornik rabot po voprosam elektromekhaniki, vyp. 4: Elektricheskiye mashiny, elektricheskiy privod, elektricheskaya tyaga na peremennom toke, avtomatizirovannyy elektroprivod teleskopov, avtomaticheskoye regulirovaniye i pribory (Collection of Works on Problems in Electromechanics, No. 4: Electric Machines, Electric Drive, A-C Electric Traction, Automated Electric Drive of Telescopes, Automatic Regulation and Instruments) Moscow, 1960. 282 p. 5,500 copies printed.

Resp. Ed.: V. V. Sidel'nikov; Ed. of Publishing House: I. V. Suvorov; Tech. Ed.: R. A. Zamarayeva.

PURPOSE: This collection of works is intended for specialists in electromechanics.

COVERAGE: The collection contains 28 works divided into three sections: 1) Electric Machines, 2) Electric Drive and Electric Traction; 3) Automated Electric Drive, and Automatic Regulation and Instruments. No personalities are mentioned. References accompany most of the articles.

AUTOMATED ELECTRIC DRIVE. AUTOMATIC REGULATION AND INSTRUMENTS

Myasnikov, V.A.

22337

S/196/61/000/005/004/004
E073/E535

9.4370

AUTHOR: Myasnikov, V. A.

TITLE: Application of the Hall Effect for Measuring the Electromagnetic Moments of Electrical Machinery

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, No.5, 1961, p.2, abstract 5I6. (Sb. rabot po vopr. elektromekhan. In-t elektromekhan. AS USSR, 1960, No.4, 254-269)

TEXT: Study of the basic relations governing a Hall pick-up indicates the following possible technical applications of such a pick-up: multiplication of electric quantities (a.c. and d.c.), division of two electric quantities; ideal linear detector; ideal square law detector; measurement of the active, reactive and of the active plus reactive power. For measuring the magnetic fluxes of electrical machinery it is advisable to apply film-type Hall pick-ups, since these have the following important advantages: they are able to work under conditions of intensive vibration; they are very thin (less than a few tens of microns); the dependence of the Hall voltage on the magnetic field is linear

up to 1-1.5 Weber/m^2; the temperature dependence is very slight. If the Hall pick-up is fed from a reference source, then the Hall e.m.f. will be proportional to the magnetic field. The electromagnetic moment of a d.c. machine can be measured if the armature current is passed through the current circuit of the pick-up and the latter is placed in the air-gap on the pole of the machine. For taking into consideration the distortions of the magnetic field caused by armature reaction, a number of pick-ups are placed on the pole and the magnetic flux is determined from one of the formulae for approximate integration. The measurements can be carried out under stationary and dynamic conditions of operation. For determining the slip, which is required for calculating the moment, a circuit with an a.c. tachogenerator and an ideal linear detector using a Hall pick-up has been developed, of which a circuit diagram is given and the principle of operation is described. 11 references.

Abstracted by G. Salgus

[Abstractor's note: Complete translation.]

30496
S/194/61/000/008/037/092
D201/D304

3,1220 (1051, 1114)

AUTHORS: Sabinin, Yu.A., Belyayev, Ye.N. and Myasnikov, V.A.

TITLE: A.C. photo-guides with assaying optics for small diameter instruments

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 8, 1961, 40, abstract 8 V311 (Izv. Krymsk. astrofiz. observ., 1960, 23, 174-183)

TEXT: The principle is considered of operation of 1- and 2-coordinate photoelectric follow-up systems (photoguides) for guiding or correcting the movement of astronomical instruments. The purpose of photoguides is to determine the magnitude of the angular error between the optical axis of the instrument and the object being observed and to send a control signal to a drive which reduces this error to the required minimum. The photoguide component which determines the direction and the deviation of the object picture from the optical axis, is either a two (for a single ordin-

Card 1/2

A.C. photo-guides...

ate system) or four-faced (for a two-coordinate system) glass prism which puts the light beam from the object being observed into 2 or 4 light beams. Each of the beams is transmitted through a mechanical light chopper (modulator) in the shape of a disc with slits or holes and applied next to the cathode of an antimony-caesium photomultiplier. The output voltage from the multiplier is amplified and applied to the control winding of a 2-phase asynchronous motor which shifts the optical axis of the photoguide together with that of the instruments, decreasing thus the tracking error. Analysis is given of operation of 1- and 2-coordinate photoguides. The procedure is suggested of calculating the limit sensitivity of a photoguide and the results of experiments with photoguides with assaying optics are given. 7 figures. [Abstracter's note: Complete translation]

Card 2/2

MYASNIKOV, V.A.

Use of Hall transducers for analyzing the operation of networks.
Izv. vys. ucheb. zav.; elektromekh. 4 no.10:47-58 '61.
(MIRA 14:11)

(Electric machinery)
(Transducers)

S/573/62/000/007/004/015
D201/D308

3,1710

AUTHORS: Vinogradova, R.G. and Myasnikov, V.A.

TITLE: Investigation of position data transducers for digital telescope control systems

SOURCE: Akademiya nauk SSSR. Institut elektromekhaniki. Sbornik rabot po voprosam elektromekhaniki. no. 7, 1962. Avtomatizatsiya, telemekhanizatsiya i priborostroyeniye, 180-191

TEXT: This is a review of results of investigations at the Institut elektromekhaniki AN SSSR (Institute of Electrical Engineering of the AS USSR). The object was to determine the possibilities of applying the existing types of position data transducers in sampled data control of astronomical instruments. The following coding systems were investigated: binary coding disc (normal and modified by R.H. Barker (Proc. IEE, v. 103, 4B, no. 7, 1956)): feedback transducers producing the grey reflected code; the pulse-digital position angle transducers and in particular the Ferranti (U.K.) lathe pulse control method; the Austin (USA) position data

Card 1/2

Investigation of position ...

transducer and finally a version of the latter as developed by the Institute of Electrical Engineering of AS USSR, in which the strobing pulses are formed by two photo-optical heads: one fixed and the other rigidly attached to the revolving shaft. The Austin type of transducer is liable to produce statistical errors owing to the complexity of the electronic components. The modified type has the associated electronic circuitry composed virtually of a single counter-register and of a frequency multiplier only. There are 6 figures.

Card 2/2

3,1710

S/573/62/000/007/005/015
D201/D308

AUTHORS: Korotkov, S.V., Myasnikov, V.A. and Sabinin, Yu.A.

TITLE: Problems in the analysis of sampled-data follow-up systems for the control of azimuthal instruments

SOURCE: Akademiya nauk SSSR. Institut elektromekhaniki. Sbornik rabot po voprosam elektromekhaniki. no. 7, 1962. Avtomatizatsiya, telemekhanizatsiya i priborostroyeniye, 192-209

TEXT: The authors analyze the problems involved in designing highly accurate mechanisms for guiding astronomical instruments. The analysis shows that, although the theoretical dynamic range of operation of such control systems is infinitely great, the zero velocity may in practice be approached only at the elongation points. The most suitable method is that of lowering the comparison frequency by introducing velocity control, which makes it possible not only to approach the zero velocity condition but also to realize a wide effective control range. Since the parameters of azimuthal instru-

Card 1/2

Problems in the analysis ...

ments are related to each other by trigonometric expressions, which in their discrete form are most easily solved by digital differential analyzers, the operation of such an analyzer, as related to sampled data position control systems, is considered and its optimal design discussed. The analyzer should be used for comparing the actual and theoretical numerical values of coordinates of the position control process, not their indirect functions. The use of a digital differential analyzer allows position and velocity control and results in simple structures of both continuous and sampled-data control systems. The results of the analysis are used for designing a system for position and velocity control of an astronomical instrument including a digital differential analyzer as its integral part and operating on a real time scale. There are 4 figures.

Card 2/2

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S/573/62/000/007/011/015
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AUTHORS: Myasnikov, V.A., Pivovarov, V.T. and Potapova, G.V.

TITLE: A semiconductor integrator with parallel carry of integrands and serial carry of excess units

SOURCE: Akademiya nauk SSSR. Institut elektromekhaniki. Sbornik rabot po voprosam elektromekhaniki. no. 7, 1962. Avtomatizatsiya, telemekhanizatsiya i priborostroyeniye, 343-349

TEXT: The authors discuss the principles of operation and describe the circuit diagram of a transistorized integrator with parallel carry, which could be used in digital differential analyzers for the control of azimuthal astronomical instruments. The integrator consists of the R_y register of the integrand and a store R. The register R_y stores the magnitudes of the variable y_i, obtained by algebraic summation of increments Δy of $y = f(x)$. Since the speed of the integrator operation depends on that of registers R_y and R, the serial carry of excess units in R_y and R is used.

Card 1/2

S/573/62/000/007/011/015
D201/D308

A semiconductor integrator ...

R_y consists of a reversible counter. Three versions of store R are considered: 1) the pulse for carrying the excess pulses into the next place is delayed with respect to the clock pulse; 2) the best version from the point of view of speed of operation with serial carry of the excess pulses; 3) as 2) with the exclusion of delay line. The basic electrical circuit of the integrator with parallel carry of the integrand and serial carry of excess units consists of a non-saturated external bias trigger with internal emitter followers and non-linear feedback. There are 4 figures.

Card 2/2

S/103/62/023/007/006/009
D201/D308

11.8000

AUTHORS: Korotkov, S. V., and Myasnikov, V. A. (Leningrad)

TITLE: A method of realization of automatic control systems requiring a high quality factor

PERIODICAL: Avtomatika i telemekhanika, v. 23, no. 7, 1962, 938-942

TEXT: The method applies to the automatic control systems with a high quality factor and wide range of velocity control. It can be applied to both continuous and switched systems when the analytical equations of motion of the system are given. The method consists of introducing additional first, second, etc., coordinate derivate controls with their corresponding safety factors. Every higher order coordinate derivative control, taken with a certain safety factor, reduces the required quality factor of the next lower order derivative control, resulting ultimately in a lower quality factor of the original control system. For astatic

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Card 1/2

systems, the quality factor numerically equals the static gain, so that its ultimate lowering leads to increase in the system's stability. The usefulness of the suggested method is greatly increased when digital follow-up systems are used, if it becomes necessary to lower the frequency at which the actual and theoretical values of the controlled parameters are compared. In these cases, the e.g. velocity control acts as an interpolating system between the points of comparison of the theoretical and actual values of the coordinate. The described method is used for setting up control systems for astronomical instruments, radio telescopes, and other objects with azimuthal mounting. There is 1 figure.

SUBMITTED: December 7, 1961

Card 2/2

ACCESSION NR: AT3008541

S/2984/63/000/000/0060/0079

AUTHORS: Korotkov, S. V.; Myasnikov, V. A.; Sabinin, Yu. A.

TITLE: Some principles for constructing a discrete system of controls for azimuthal astronomical instruments

SOURCE: Novaya tekhnika v astronomii; materialy* soveshch. Komissii priborostroyen. pri Astronom. sovete AN SSSR, Moskva, 18-20 apr. 1961 g. Moscow, Izd-vo AN SSSR, 1963, 60-79

TOPIC TAGS: control system, azimuthal telescope, azimuthal mounting, automatic control

ABSTRACT: The authors have carefully investigated the advantages of an azimuthal mounting over the standard equatorial mounting for telescopes and have examined the means of controlling such instruments. The range of control in a system to direct azimuthal instruments is theoretically infinite. In practice it is possible to approach, for velocity control, the points of elongation (the transition of velocity through zero). The authors have worked out a method for lowering the frequencies of iteration and of comparison by means of a control system for velocity which permits close approximation to zero velocity with a rather wide range in

Card 1/2

ACCESSION NR: AT3008541

control. This method allows selection of the optical structure of a digital following system for controlling azimuthal instruments. The guidance process according to position must be done by comparison, in a central selection station, of the true and computed values of coordinates, not of functions of these coordinates. A central selection station for controlling azimuthal instruments by a serial digital differential analyzer is simply designed, with the possibility of control by position or by velocity. The authors' method of setting up a central selection system may find practical use in azimuthal telescopes, radiotelescopes, and other similar instruments of automatic control requiring very high precision and smooth operation. Orig. art. has: 12 figures and 27 formulas.

ASSOCIATION: Institut elektromekhaniki GK SM SSSR po avtomatiz. i mashinostr. (Institute of Electromechanics GK SM SSSR for Automation and Machine Design)

SUBMITTED: 00 DATE ACQ: 16Oct63 ENCL: 00

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Card 2/2

ACCESSION NR: AT4015858 S/2573/63/000/009/0087/0101

AUTHOR: Korotkov, S.V.; Myasnikov, V.A.; Pivovarov, V.T.

TITLE: Investigation of the algorithm of a special-purpose digital computer for the transformation of equatorial coordinates into azimuthal coordinates

SOURCE: AN SSSR. Institut elektromekhaniki. Sbornik rabot po voprosam elektromekhaniki, no. 9, 1963. Avtomatizatsiya, telemekhanizatsiya i priborostroyeniye. (Automation, telemechanization and instrument manufacture), 87-101

TOPIC TAGS: azimuth equator, azimuth coordinate, equatorial coordinate, digital computer, computer, algorithm, zenith, digital system, tracking system, telescope, ternary code, accelerated clock

ABSTRACT: The logical design of a special-purpose digital computer which transforms the equatorial coordinates (declination δ and ascent α) into azimuthal coordinates (azimuth A and zenith distance z), using digital differential analyzer principles, is worked out in detail. The computer is to be used in an automatic digital tracking system for a telescope (or any other azimuthal instrument). It uses 10 digital integrators of 20-bit capacity, with a resultant error in A and z of the order of 10^{-6}. The transformation equations which form

Card 1/[illegible]

the basis for the design are

$$z = \arccos (a_4 + a_5 \cos t) \quad (1)$$

$$A = \arcsin \left(\frac{a_1 \sin t}{\sin z}\right) \quad (2)$$

where $a_4 = \sin \varphi \sin \delta$, φ = latitude of the point, δ = declination, $a_5 = \cos \varphi \cos \delta$, $a_1 = \cos \delta$, t = time angle. The computer uses the differential form of Equations (1) and (2). The block diagram of the system is shown in Figure 1 of the Enclosure. The sine and cosine functions of the time angle are realized by integrators 1 and 2 which have differential (incremental) outputs. This scheme was described in detail by A.A. Voronov, et al. (Tsifrovy*ye analogi dlya sistem avtomati cheskogo reguliravoniya. Izd. AN SSSR, M.-L., 1960). The differential form of Equation (1) is realized by the null-element 4 whose input is

$$a_5 \sin t\, dt - \sin z\, dz = 0 \quad (3)$$

and whose output is fed into a (sin z)-generator (5 and 6) , similar to the time sine and cosine generator. The incremental output $\pm \Delta z$ is used as the zenith tracking control signal.

ACCESSION NR: AT4015858

Ternary code is used for incremental values, which requires that different polarities be processed through different channels. With this method of coding, the null-element becomes a bidirectional counter which controls the gates B through which the timing pulses Δt pass until the contents of the counter become zero. The initial values of sin z and cos z must be, of course, stored in registers of integrators 5 and 6. Equation (2) is also realized in its differential form

$$d(\sin A)\sin z + d(\sin z)\sin A = a_1\, d(\sin t) \qquad (4)$$

by a null-element (12) and integrators 9 and 10, with integrators 8 and 11 supplying necessary additional transformations. Before the system can be used for tracking, initial values of the coordinates (a_1 and a_5) must be supplied to the scale integrators 3 and 7. The time reference point is t = 180°, which corresponds to S/2 (S is a stellar day, 23 hours, 56 minutes, 4.08 sec.). The calculation of initial coordinates continues until $S/2 - S_1$, at which point the output coordinates correspond to the true coordinates of the star. This is done by reconnecting the elements of the system so that integrators 9 and 10 calculate $a_1 = \cos\delta$ and integrators 5, 6, 8, 9, 10, and 11 give $a_5 = \cos\varphi\cos\delta$, using the processing equation $da_1 = d\cos\varphi\cos\delta + d\cos\delta\cos\varphi$. The initial values are $\varphi = \delta = 0$, and the processing stops when the preselected values of φ_0 and δ_0 are reached. An accelerated clock, which requires 4 minutes to cover the entire azimuth angle of 360°, rate of 25 kc is used for

CARD 3/6

ACCESSION NR: AT4015858

processing of initial conditions. The faster clock rate assures that initial conditions are processed before the time S_1. At the moment S_1, a synchronizing network connects the system to the real-time clock, and the tracking begins. The incremental values ΔA and Δz are stored in counters 13 and 14, which produce the computed coordinate values z_p and A_p. These are compared with actual values of A and z as obtained by monitoring the position of the axis of the instrument. Orig. art. has: 9 formulas, 6 figures, and 3 tables.

ASSOCIATION: Institut elecktromekhaniki AN SSSR (Institute of Electromechanics AN SSSR)

SUBMITTED: 00 DATE ACQ: 20Dec63 ENCL: 01

SUB CODE: AA, DP NO REF SOV: 001 OTHER: 001

Card 4/6 4